

A NEW SPECIES AND NEW RECORDS OF *PORTUNUS* (DECAPODA :
PORTUNIDAE) FROM NORTHERN AUSTRALIA

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ABSTRACT

Portunus rufiarcus is described as new. It differs from its closest relatives, *P. pubescens* and *P. convexus*, by its characteristic colouring, a continuous mesogastric ridge, and a distinctive first male pleopod. *P. pulchricristatus* and *P. tuberculosus* are recorded from Australia for the first time.

INTRODUCTION

Extensive shallow water trawling by the Queensland Fisheries Service (Q.F.S.) has been conducted in recent years. Amongst a variety of interesting material that has come to the Museum are three species of *Portunus*. Measurements given are of carapace widths including the last anterolateral spine. Synonomies cover the most important references but are not necessarily complete.

Portunus pulchricristatus (Gordon, 1931)
(Fig. 1)

Neptunus (Hellenus) spinipes Alcock, 1899: 31, 39.
non *Neptunus (Amphitrite) spinipes* Miers, 1886
Neptunus (Hellenus) pulchricristatus Gordon, 1931: 534,
figs 8, 10a.

Portunus pulchricristatus: Stephenson and Rees, 1967:
35. Stephenson, 1972a (record only). Stephenson
1972b (check-listing).

MATERIAL EXAMINED

QM W9913, 1 ♂ (23.3 mm), trawled off N. Queensland, 15°46.6'S, 145°42.1'E, 10.9.1979, 48.6 m, Q.F.S. QM W9916, 1 ♂ (25.5 mm), trawled off N. Qld, 16°08'S, 145°37'E, 11.9.1979, 43.2 m, Q.F.S. QM W9919, 1 ♂ (29.3 mm), trawled off N. Qld, 17°09.8'S, 146°23.5'E, 10.10.1979, 50.4 m, Q.F.S.

REMARKS

The specimens generally agree with the description of Gordon (1931), although length breadth ratios are slightly smaller (1.93 — 2.06 compared with 2.3 — 2.6). Nevertheless the last anterolateral spines are prominent, a feature which helps distinguish this species from *P. spinipes*. The other anterolateral teeth are slightly more defined than was figured by Gordon (1931) but they are not acute as in *P. spinipes*. Both of the above discrepancies could be accounted for by the

slightly smaller size of the present specimens. The first male pleopod agrees closely with the figures of both Gordon (1931) and Stephenson and Rees (1967, fig. 7).

DISTRIBUTION

Muscat; Madras; Andamans; Gulf of Martaban and Arakan Coast, Burma; Malaysian area; Philippines and China (Stephenson 1972b). Now from north Queensland, Australia.

Portunus tuberculosus (A. Milne Edwards, 1861)

Neptunus tuberculosus A. Milne Edwards, 1861: 333–4,
pl. 31 (fig. 5).

Neptunus (Amphitrite) tuberculosus: Miers, 1886: 176.
Neptunus (Hellenus) tuberculosus: Alcock, 1899: 42–3.
Portunus tuberculosus: Stephenson and Campbell, 1959,
p. 89 (in key). Crosnier, 1962: 69–71, figs 97–8, 124–
7. Stephenson and Rees, 1967: 52, fig. 18, pl. 6B.
Heath, 1971. Stephenson 1972a (record only),
Stephenson 1972b (checklist).

MATERIAL EXAMINED

QM W12869, 1 ♂ (24.3 mm), trawled 'Red Spot Bycatch' Stn 2, E. of Hinchinbrook Is., 18°26'S, 146°25.4'E, 17.7.1985, Q.F.S. QM W9917, 1 ♀ (23.1 mm), trawled north Queensland, 17°08.7'S, 146°15.2'E, 43.2 m, 17.10.1979, Q.F.S. QM W2098, 1 ♀ (29.8 mm), Arnhem Bay, N.T., 10 fms, sand and mud bottom, V. Wells.

REMARKS

Agrees in all details with description given by Stephenson and Rees (1967).

DISTRIBUTION

Tanzania; Madagascar, Persian Gulf; Ceylon; China; Philippines; Palau Is. and Hawaii (Stephenson 1972b). Now from northern Australia.

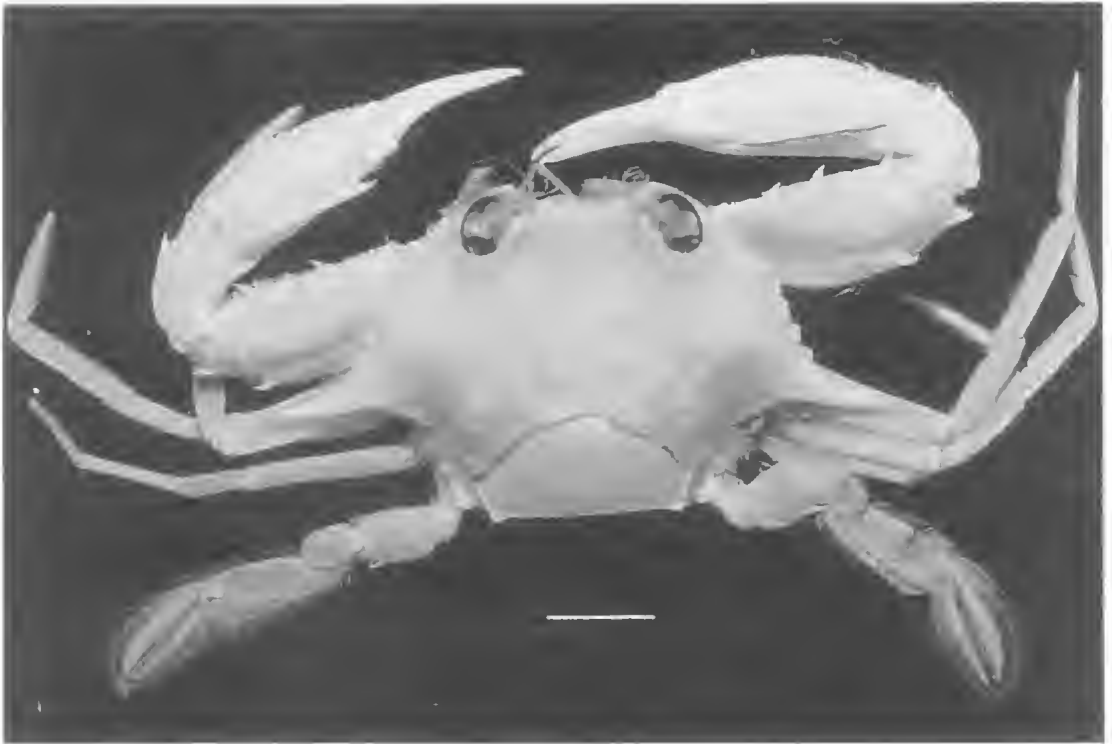


FIG. 1: *Portunus pulchricristatus* (Gordon, 1931). Scale = 5mm.

***Portunus rufiarcus* sp. nov.**
(Figs 2a-d, 3)

MATERIAL EXAMINED

HOLOTYPE: 1 ♂ QM W12625 (27.1 mm), Bathurst Bay, FNQ. Beam-trawled, 1 m, over seagrass beds, C. Jones (Q.F.S.).

DESCRIPTION

Front: Four flat rounded lobes, equally protruberant and projecting well ahead of inner angles of orbit. Laterals only slightly broader at base than medians.

Anterolateral teeth: First, large triangular and blunt, projecting straight forward; the second to eighth of similar shape although gradually diminishing in size; the ninth about the same length as the first but sharply pointed and projecting forward.

Carapace: Moderately broad (breadth 1.58 times length), the anterolateral teeth form a curve whose centre lies at about the level of the cardiac groove. Postero-lateral angles rounded. Surface distinctly finely granulated particularly anterior to the epibranchial and mesogastric grooves,

becoming microscopic to almost smooth towards the posterior margin. Some sparse, small hairs across the anterior half, slightly longer on the borders of the anterolateral teeth. Paired branchial and metagastric ridges, but a continuous straight mesogastric ridge.

Chelipeds: Robust, pubescent, microscopically granulated. Posterodistal border of arm smooth; anterior border with three spines, the proximal spine the smallest, the median and distal spines subequal in length. Carpus with two carinae on outer face, the inferior one ending in a spine, the superior one blunt; and a carina on upper surface which also ends bluntly. Inside upper distal edge near hand articulation, with usual long spine. Outer upper distal edge without spine but carina bluntly pointed. Hand with three conspicuous carinae dorsally, the inner two ending in spines. Strong forwardly directed spine at point of upper articulation with carpus. Outer and inner faces both with median carinae ending bluntly. Dactyl with three carinae; fingers serrated; proximal tooth of right dactyl 'molar-like' and directed backwards.

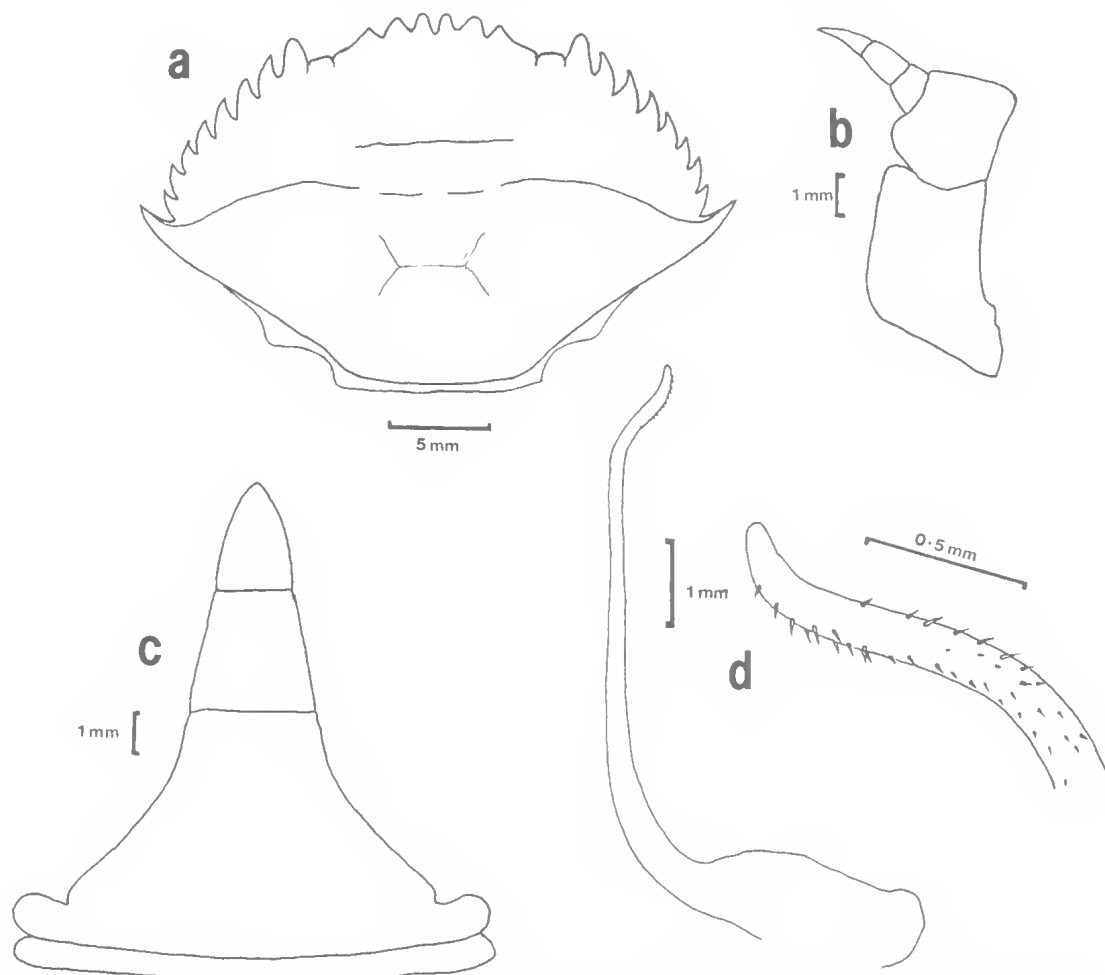


FIG. 2: *Portunus rufiarcus* sp. nov.: a — carapace; b — third maxilliped; c — male abdomen; d — left first male pleopod, whole view, and enlargement of sternal face of tip.

Fifth leg: Posterior surface with fine fringing hairs, no spines or spinules. Dactyl ends in small spine.

Third Maxilliped: Anteroexternal angle of merus not produced laterally but is square cut (Fig. 2b).

Male Abdomen: Gradually tapering, ultimate segment 1.7 times as long as broad at base, and only slightly shorter than length of penultimate (Fig. 2c).

First Male Pleopod: Long and thin, central section straight; recurved towards apex; gradually tapering to a slightly truncated tip. Abdominal surface of tip smooth, sternal face with sparse short bristles (Fig. 2d).

Colour: After approximately 6 months in alcohol the crab is generally a creamy yellow with

a uniform narrow arc of orange/red finishing at about the level of the penultimate anterolateral teeth. Two patches of the same colour but paler on either side of the mid-line, centred over the mesogastric ridge.

Fresh specimens have a much deeper red arc than preserved specimens. Behind this the colour is a rich red-brown becoming more orange until the epibranchial ridges. Behind these the carapace is yellow except for where the anterior colour extends back centrally for a short distance. The ambulatory legs are yellow, matching the posterior carapace colour. The chelipeds are a similar red to that behind the dark anterior arc.

REMARKS

Portunus rufiarcus is clearly most closely related to *P. pubescens* and *P. convexus* however both of

these have the mesogastric ridge broken.

It differs from *P. convexus* in other respects by: the shorter last anterolateral spines; the different shape of the frontal teeth (c.f. Fig. 60 in Crosnier, 1962); the merus of the third maxilliped having the anteroexternal angle more squarely cut (c.f. Fig. 69 in Crosnier, 1962); and in missing the characteristic posterolateral brown spots of that species. It resembles *P. convexus* particularly in the sinuous form of the first male pleopod, and in this respect both species differ from *P. pubescens* which has a smoothly curved male pelopod. It also differs from *P. pubescens* in the shape of the frontal teeth.

ETYMOLOGY

The species' name alludes to the distinctive colouring, and is from the latin words *rufus* meaning red, and *arcus* meaning an arc or bow.

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FIG. 3. *Portunus rufiarcus* sp. nov. Scale = 5mm.

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